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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/954,656	09/18/2001	Georg Friedrich Gaertner	DE000145	7505

24737 7590 06/30/2003

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

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BRIARCLIFF MANOR, NY 10510

EXAMINER

PHINNEY, JASON R

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 06/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/954,656

Applicant(s)

GAERTNER ET AL.

Examiner

Jason Phinney

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7 and 9 is/are rejected.
- 7) ☒ Claim(s) 5, 6 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by EP 0641006 to Shon.

Regarding Claim 1, Shon discloses a cathode ray tube provided with at least one oxide cathode comprising a cathode carrier with a cathode base of a cathode metal (Figure 2, #6) and a cathode coating of an electron-emitting material (#5) containing a particle-particle composite material of oxide particles of an alkaline earth oxide selected from the group formed by the oxides of calcium, strontium and barium (Column 3, Line 54 – Column 4, Line 1), and oxide particles having a first grain size distribution of an oxide selected from the group formed by the oxides of scandium, yttrium and the lanthanoids (Column 3, Lines 47-53), and oxide particles having a second grain size distribution of an oxide selected from the group formed by the oxides of scandium, yttrium and the lanthanoids (Column 3, Lines 47-53).

Regarding Claim 9, Shon discloses an oxide cathode comprising a cathode carrier with a cathode base of a cathode metal (Figure 2, #6) and a cathode coating of an electron-emitting

material (#5) comprising a particle-particle composite material of oxide particles of an alkaline earth oxide selected from the group formed by the oxides of calcium, strontium and barium (Column 3, Line 54 – Column 4, Line 1), and oxide particles having a first grain size distribution of an oxide selected from the group formed by the oxides of scandium, yttrium and the lanthanoids (Column 3, Lines 47-53), and oxide particles having a second grain size distribution of an oxide selected from the group formed by the oxides of scandium, yttrium and the lanthanoids (Column 3, Lines 47-53).

3. Claim 1 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. Patent No. 6,124,666 to Saito.

Regarding Claim 1, Saito discloses a cathode ray tube provided with at least one oxide cathode comprising a cathode carrier with a cathode base of a cathode metal (Figure 1, #1) and a cathode coating of an electron-emitting material (#5) containing a particle-particle composite material of oxide particles of an alkaline earth oxide selected from the group formed by the oxides of calcium, strontium and barium (Column 5, Lines 5-7), and oxide particles having a first grain size distribution of an oxide selected from the group formed by the oxides of scandium, yttrium and the lanthanoids (Abstract, Lines 4-9), and oxide particles having a second grain size distribution of an oxide selected from the group formed by the oxides of scandium, yttrium and the lanthanoids (Abstract, Lines 4-9).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0641006 to Shon.

Regarding claims 2 and 3, Shon discloses the claimed invention except for the limitation of the average grain size distribution and their respective concentrations. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the claimed sizes and distributions, since optimization of workable ranges is considered within the skill of the art.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,124,666 to Saito.

Regarding claim 4, Saito discloses the claimed invention except for the limitation that the alkaline earth oxide should be doped with an element selected from the group formed by scandium, yttrium and the lanthanoids in a quantity ranging from  $0.10 \times 10^{-6}$  to  $10 \times 10^{-6}$  wt.%. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. It would have

Art Unit: 2879

been obvious to one having ordinary skill in the art at the time the invention was made to dope the alkaline earth oxide with scandium as taught by Saito (Column 2, Lines 27-40) in the ranges claimed, since optimization of workable ranges is considered within the skill of the art.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0641006 to Shon.

Regarding claim 7, Shon discloses the claimed invention except for the limitation that the electron-emitting material should comprise 1 to 3 wt. % particles of an activator metal selected from the group formed by Mg, Al, Fe, Si, Ti, Hf, Zr, W, Mo, Mn and Cr. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Mg, W, Si, or Mo as taught by Shon (Column 3, Lines 36-46) in the ranges claimed, since optimization of workable ranges is considered within the skill of the art.

***Allowable Subject Matter***

8. Claims 5, 6, and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter:

Art Unit: 2879

Regarding claims 5 and 6, the references of the Prior Art of record fail to show or suggest the combination of the limitations as set forth in claims 5 and 6, and specifically comprising the limitation that the emitter layer should be stratified according to grain size distributions.

Regarding claim 8, the references of the Prior Art of record fail to show or suggest the combination of the limitations as set forth in claim 8, and specifically comprising the limitation that the electron-emitting material should comprise 1 to 3 wt. % particles of an activator metal selected from the group formed by Mg, Al, Fe, Si, Ti, Hf, Zr, W, Mo, Mn and Cr, which are coated with a metal selected from the group formed by Pd, Rh, Pt, Co, Ni, Ir, Re.

### *Conclusion*

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Phinney whose telephone number is (703) 305-3999. The examiner can normally be reached on M-F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JP

June 18, 2003

  
VIP PATEL  
PRIMARY EXAMINER